Addendum to the paper:

S. Jarohs, A. Saldaña, and T. Weth. A new look at the fractional Poisson problem via the Logarithmic Laplacian. Journal of Functional Analysis Volume 279, Issue 11, 2020.

- In Theorem 1.3 there is a minus sign missing infront of $L_\Delta E_\Omega f$; namely, it should be

$$u_s \to f \quad \text{and} \quad \frac{u_s - f}{s} \to -L_\Delta E_\Omega f \qquad \text{almost uniformly in } \Omega \text{ as } s \to 0^+,$$

instead of

$$u_s \to f \quad \text{and} \quad \frac{u_s - f}{s} \to L_\Delta E_\Omega f \qquad \text{almost uniformly in } \Omega \text{ as } s \to 0^+.$$

The correct statement for the Theorem 1.3 is the following.

Theorem 1.3 *Let $N \geq 2$, let $\Omega \subset \mathbb{R}^N$ be an open and bounded set of class C^2, let $f \in C^\alpha(\overline{\Omega})$ for some $\alpha > 0$, and let $u_s := \mathbb{G}_s f$ for $s \in (0,1)$. Then*

$$u_s \to f \quad \textit{and} \quad \frac{u_s - f}{s} \to -L_\Delta E_\Omega f \qquad \textit{almost uniformly in } \Omega \textit{ as } s \to 0^+.$$

Moreover, if $f \geq 0$ in Ω, then

$$0 \leq u_s(x) \leq f(x) - \int_0^s (\mathbb{G}_s[L_\Delta(E_\Omega f)])(x)\,dt \qquad \textit{for } s \in (0,1),\ x \in \Omega.$$

The proof is unchanged.

Note that the minus sign is also missing in the paragraph in the introduction before Definition 1.2, it should be

Under the same assumptions as in Theorem 1.1, we shall also derive the limiting properties $u_s \to f$ and $\frac{u_s - f}{s} \to -L_\Delta E_\Omega f$ in Ω as $s \to 0^+$.

instead of

Under the same assumptions as in Theorem 1.1, we shall also derive the limiting properties $u_s \to f$ and $\frac{u_s - f}{s} \to L_\Delta E_\Omega f$ in Ω as $s \to 0^+$.